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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/331,829 06/23/99 SUZUKI

H 1576.77

EXAMINER
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IM22/0328

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ART UNIT	PAPER NUMBER

1712

DATE MAILED:

03/28/01

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/331,829

Applicant(s)

SUZUKI ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A clear line of demarcation between the tetrakisphenol and epoxy group-reactive compound has been established by the terminology wherein the compound is "other than the tetrakisphenol compound."

Independent claims 1 and 2 define a "clathrate curative for epoxy resins" and a "clathrate curing accelerator for epoxy resins." Such language merely indicates the ultimate intended utilities for the clathrates and does not require the presence of an epoxy resin. Claim 1, line 10 and claim 2, lines 9-10 denote a compound "which reacts with epoxy groups of an epoxy resin." Claim 1, line 12 and claim 2, line 11 set forth a molar ratio of clathrate:epoxy resin of from 0.001:1 to 0.1:1. How can the compound react with epoxy groups and how can the molar amount of clathrate be ascertained relative to the epoxy resin when the epoxy resin is not even a required component?

The language of a compound "which reacts with epoxy groups of an epoxy resin" merely refers to the reactivity of the compound upon the introduction of an epoxy resin and does not affirmatively define the presence of the epoxy resin with the compound.

Claim 1 is directed to a clathrate curative and claim 2 is drawn to a clathrate curing accelerator. There is no language necessitating the presence of the epoxy resin with the clathrate. Only the intended or potential presence is indicated.

The 35 U.S.C. 102(b) rejection over Japanese Patent Nos. 5-105739 and 7-173089 is withdrawn since the amended claim language requires both the tetrakisphenol and epoxy-reactive compound which are not recited.

The 35 U.S.C. 102(b) and 103(a) rejections over the Schreiber patents and Koike et al. are withdrawn since the claims are directed to a clathrate of a tetrakisphenol and an epoxy-reactive compound wherein the tetrakisphenol is reacted with the epoxy-reactive compound to form the clathrate. The Schreiber patents and Koike et al. show blends of a tetrakisphenol and 2-ethylimidazole which are not pre-reacted to obtain a clathrate.

Example 1 on page 21 of the specification indicates the formation of a clathrate via 1) the heating of a tetrakisphenol host compound with a liquid curative or curing accelerator to obtain a crystallized clathrate, 2) kneading the tetrakisphenol with a solid curative or curing agent, or 3) dissolving the curative or curing accelerator, dissolving or suspending the tetrakisphenol into a solvent, heating and crystallizing the clathrate.

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Nos. 5-194711 and 6-329570 and Asai et al.

Japanese Patent No. 5-194711 sets forth a clathrate of an epoxy-reactive compound such as ethylenediamine (within the realm of the epoxy-reactive compound according to page 7, line 19 of the specification) and a bisphenol useful as a curing agent for an epoxy resin. Japanese Patent No. 6-329570 and Asai et al. (cols. 15-16, Table 2, Sample A-24) shows clathrates of a tetrakisphenol and a nitrogen-containing heterocyclic compound (Japanese '570) such as imidazole (Asai et al., deemed to be an example of an epoxy-reactive compound on page 8, line 26 of the specification).

Japanese '711 does not recite the claimed tetrakisphenol in the abstract. It would have been obvious to enclose the epoxy-reactive compound with the tetrakisphenol of Japanese '570 and Asai et al. in order to enhance the chemical stability, facilitate the enclosure of nitrogen-containing heterocyclic compounds, ease the release of the epoxy-reactive compound by heating and to lower the toxicity and skin irritation of the epoxy-reactive compound (Asai et al., col. 14, items 1), 5) and 7)).

Japanese '570 and Asai et al. do not recite the claimed ultimate intended utility as a curative for epoxy resins. It would have been obvious to employ the clathrates of Japanese '570 and Asai et al. as epoxy resin curing agents considering the teaching of Japanese '711 that clathrates of epoxy-reactive compounds are useful as curing agents and in the form of clathrates exhibit prolonged pot life.

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rs 3/22/01



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